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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/656,238 | 09/08/2003 | Nathalie Mougin | 05725.0570-01 | 1859 |
| 22852 7590 06/01/2007 FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413 | | | EXAMINER SILVERMAN, ERIC E | |
| | | | ART UNIT 1615 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|------------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 10/656,238 | Applicant(s) MOUGIN, NATHALIE | |
| | Examiner Eric E. Silverman, PhD | Art Unit 1615 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-52 and 54-61 is/are pending in the application.
- 4a) Of the above claim(s) 41-52, 54 and 59-61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 55-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>9-8-03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' submission filed 3/12/2007 has been received. Claims 41 – 52, and 54 – 61 are pending.

Election/Restrictions

Applicant's election with traverse of Group II, claims 55 – 58 in the reply filed on 3/12/2007 is acknowledged. The traversal is on the ground(s) that a search for the method of Group II would have to include the compositions of Group I, since the star polymer of Group I is also present in Group II, and thus, a search of the two groups would overlap. This is not found persuasive because notwithstanding that there may be features that are common to Groups I and II, a search of Group I would entail any possible uses of the compositions of Group I, such as commodity plastics, surfactants, rheology modifiers, and the like, whereas a search of Group II entails only the method steps of Group II. Because the composition of Group I is potentially useful in a variety of methods, many of which are differ materially from the method of Group II, search of both groups in the same application would impose a burden on the office.

The requirement is still deemed proper and is therefore made FINAL.

It is noted that Applicants' did not argue that the restriction of Group I and II from Group III is improper. Thus, while the election was made with traverse with respect to Groups I and II, the election is being treated as **without** traverse with respect to the restriction between Groups I and III and between Groups II and III.

Claim Rejections - 35 USC § 112

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 55 – 58 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. **This is a written description rejection.**

Applicants' disclosure has not shown possession of the entire scope of the claimed process of retaining or shaping the hair. The claims are directed to a method of retaining or shaping hair by applying to the hair a composition containing a star polymer of formula (I). Formula (I) is inclusive of a wide variety of polymer species. Applicants' have not shown possession of the process wherein any of these species are useable. The star polymer comprises a multifunctional unit A and polymer branches. The polymer branches are defined as comprising a copolymer of at least two different monomers, M_k and M_j . M_k and M_j are defined only by the glass transition temperature, T_g , of their corresponding homopolymers. M_k must have a T_g greater than 10 C and M_j must have a T_g less than 10 C.

However, there is no nexus between the identity of the components of the star copolymer and the properties required for use in this invention, namely, the ability to shape or retain hair. As such, the artisan would doubt that Applicants' actually

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possessed a process of shaping or retaining hair using any of the star polymers encompassed by the claims. It is doubtful that Applicants' actually possessed the invention within the full scope of the claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 55 – 58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite star polymers having a particular structure. This structure is indefinite. In particular, the branch comprising at least one polymerized monomeric unit is not defined. The branch is comprised monomeric units, is either Mk or Mj. Mk is defined as units, which may be identical or different, wherein a homopolymer formed by the units Mk has a Tg of greater than 10 C. This is indefinite for the following reasons. First, in the case that Mk consists of different units (that is, there is more than one monomer unit), then there is no homopolymer defined by Mk, because a homopolymer by definition contains only one monomer. Accordingly, when Mk includes two different units, there is no 'homopolymer formed by corresponding monomeric units Mk', as recited.

Further, Mk is defined by a property of a homopolymer of Mk, namely the Tg. However, the Tg of a homopolymer varies with the molecular weight of the homopolymer (this relationship was explained in an equation developed by Fox and Florey in the 1950's, and is related in the Montserrat et al reference, cited on PTO 892).

For example, as shown in Montserrat et al., the Tg of poly(ethylene terphthalate) varies from 342.0 K to 331.3 K as the number average molecular weight varies from 371,000 to 4,500. Since the claim does not state what the molecular weight of the homopolymer is when the Tg is measured, it is impossible for the artisan to know what is, and what is not, encompassed by Mk.

Mj is defined similarly to Mk, except that the Tg of Mj is less than 10 C. All of the issues related to the definition of Mk also apply to Mj.

Furthermore, the terms M1, M2, p1 and p2 are used in the claim, but are not defined, nor are these terms known to the artisan.

The remaining claims are rejected for ultimately depending on claim 55 without rectifying these issues.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 55 and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,552,137 to Manning et al.

Manning et al discloses a method of treating or conditioning the hair. The method involves the application of a composition to the hair. One exemplified composition (see Formulation 3-2) contains a hydrolyzed animal protein "Crotein SCP". The animal protein reads on the structure of formula (i). "A" in formula (i) is equivalent

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to an amino acid in the interior of the protein. Said amino acid is polyfunctional and has 2 branches covalently bound to it, one branch being bound to the acid functional group and the second branch being bound to the amine functional group. The units M1 to Mi correspond to the various amino acids that are bound to central amino acid A. Since M1 to Mi may consist of more than one different monomer, the protein reads on this aspect of the formula even though it is presumably composed of a variety of amino acids. With respect to the glass transition temperature, as evidenced by Montserrat, the glass transition temperature of a homopolymer of one of the amino acids Mi will be commensurate with the requirements if the degree of polymerization of that homopolymer is appropriate.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 55 – 58 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 16 - 23 of U.S. Patent No. 6,737,071. Although the conflicting claims are not identical, they are not patentably distinct from each other because the difference between the claims lies in the glass transition temperature associated with homopolymers of Mk and Mj. In instant claims, Mk has a Tg greater than or equal to 10 C, and Mj has a Tg less than or equal to 10 C. In patented claims, Mk has a Tg less than or equal to 0 C. Thus, patented Mk is merely a species of instant Mk. Patented Mj has a Tg greater than or equal to 0 C. Thus, the range for patented Mj's Tg (0 C to infinity) substantially overlaps with that of instant claims' (10 C to infinity), rendering instant claim obvious in its entirety. The only other difference between instant and patented claims is that instant claim is a process for retaining or shaping hair, whereas patented claims recite a process for treating keratinous materials. Hair being a keratinous material, instant process is rendered obvious by patented process.

Claims 55 – 58 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 5 of U.S. Patent No. 6,692,733. Although the conflicting claims are not identical, they are not patentably distinct from each other because whereas instant claim recites a process for retaining or shaping hair, patented claims recite a method of treating a keratinous substance. Hair being a keratinous substance, instant claims are rendered obvious by patented claims.

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Claims 55 – 58 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 5 of U.S. Patent No. 6,723,789. Although the conflicting claims are not identical, they are not patentably distinct from each other because while instant claims recite a method of retaining or shaping hair, patented claims recite a method of treating a keratinous substance. Hair being a keratinous substance, instant claims are rendered obvious by patented claims.

Claims 55 – 58 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 60 – 63 of U.S. Patent No. 6,476,124. Although the conflicting claims are not identical, they are not patentably distinct from each other because while instant claims recite a method of retaining or shaping hair, patented claims recite a method of treating a keratinous substance. Hair being a keratinous substance, instant claims are rendered obvious by patented claims.

Conclusion

No claims are allowed.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric E. Silverman, PhD whose telephone number is 571 272 5549. The examiner can normally be reached on Monday to Friday 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on 571 272 8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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